NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

WETLAND CREATION

(acre)
Code 658

DEFINITION

A wetland that has been created on a site location which historically was not a wetland (created wetland) or was a wetland but the site will be converted to a wetland with a different hydrology, vegetation type, or function than naturally occurred on the site (recreated wetland).

PURPOSE

To create wetlands that consist of wetland hydrology, hydrophytic plant communities, hydric soil conditions, and wetland functions and/or values.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to sites where no natural wetland occurred or where a wetland exists, or existed, and the wetland characteristics (hydrology, vegetation, and functions) will be different from what historically occurred.

Upon completion of the creation (or recreation) the site will meet the current NRCS definition of Wetland.

This practice is applicable only if hydrologic conditions can be approximated by modifying drainage and/or artificial flooding of a duration and frequency to create wetland conditions. The wetland class/subclass will be specified.

This practice does not apply to: a constructed wetland (280) intended to treat point and non-point sources of water pollution; wetland enhancement (300) intended to rehabilitate a degraded wetland where specific functions and/or values are enhanced beyond original conditions; or wetland restoration (657) intended to rehabilitate a degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to original conditions.

CRITERIA

General:

The landowner shall obtain necessary local, state, and federal permits that apply before creation. The Clean Water Act, Section 404 , regulates the discharge of dredged or fill material into “waters of the United States”. The 404 permit application may be downloaded from http://www.spa.usace.army.mil/reg/ENG4345.PDF.

Water rights are assured prior to creation if required..

Created wetlands will only be located where the soils, hydrology and vegetation can be modified to meet the current NRCS criteria for wetland.

Hydric soil conditions:
Establish an approximation of the soil microtopography typical for the wetland type(s) being established.

Wetland Hydrology:

The hydrology of the site is defined as the rate and timing of inflow and outflow, source, duration, frequency, and depth of flooding, ponding or saturation.

The standards and specifications for Dike (356) and Structure for Water Control (587) will be used as appropriate. Refer to the Engineering Field Handbook, Chapters 13, "Wetland Restoration, Enhancement, and Creation," and 6, "Structures," for additional design information. Existing drainage systems will be utilized, removed, or modified as needed to achieve the intended purpose.

Hydrophytic Vegetation:

Establish an approximation of the hydrophytic vegetation typical for the wetland type(s) being established.

Preference shall be given to native wetland plants with localized genetic material. Plant materials collected or grown from material collected within a 200-mile radius from the site is considered local.

Where natural colonization of selected species will realistically dominate within 5 years, then natural regeneration can be left to occur.

Adequate substrate material and site preparation necessary for proper establishment of the selected plant species shall be included in the design.
Each state will develop specific guidelines that consider soil, seed sources, and species.

If the targeted hydrophytic vegetation is predominantly herbaceous, several species adapted to the site will be established. Herbaceous vegetation may be established by a variety of methods including: aerial, topsoiling, organic mats, etc., over a portion of the site and at densities and depths appropriate.

Forested wetland establishment will include a minimum of three species, where appropriate. Seedling preparation and planting will follow the criteria of Conservation Practice 612, Tree Planting.

Seed planting rates and site preparation will meet the criteria of Conservation Practice 652, Woodland Direct Seeding. Seed viability will be checked immediately prior to planting.

Wetland Functions:

A functional assessment (Hydrogeomorphic approach or similar method) shall be performed on the site prior to creation.

Created wetland goals and objectives should include targeted natural wetland functions for the wetland type and the site location.

CONSIDERATIONS

Consider effect of volumes and rates of runoff, infiltration, evaporation, and transpiration on the water budget.

Evaluate the potential for a change in rates of plant growth and transpiration because of changes in the volume of available soil water.

Consider effects on downstream flows or aquifers that would affect other water uses or users.

Consider effects on wetlands or water-related resources wildlife habitats that would be associated with the practice.

Considering positioning sites adjacent to existing wetlands to increase wetland system complexity and diversity, decrease habitat fragmentation, and ensure colonization of the site by wetland flora and fauna.

Consider linking wetlands by corridors wherever appropriate to enhance the

wetland's use and colonization by the flora and fauna.

Consider establishing vegetative buffers on surrounding uplands to reduce sediment and soluble and sediment-attached substances carried by runoff and/or wind.

The nutrient and pesticide tolerance of the species planned should be considered where known nutrient and pesticide contamination exists.

Consider effects on temperature of water resources to prevent undesired effects on aquatic and wildlife communities.

The soil, hydrology and vegetative characteristics of the site and its contributing watershed before alteration should be documented.

Embankments and excavated slopes should be located and shaped in a manner that is compatible with the existing landscape.

PLANS AND SPECIFICATIONS

Specifications for this practice shall be prepared for each site. Specifications shall be recorded using approved specifications sheets, job sheets, narrative statements in the conservation plan, or other documentation. Requirements for the operation and maintenance of the practice shall be incorporated into site specifications.

OPERATION AND MAINTENANCE

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation), and repair and upkeep of the practice (maintenance):

Any use of fertilizers, mechanical treatments, prescribed burning, pesticides and other chemicals shall not compromise the intended purpose. Biological control of undesirable plant species and pests (e.g., using predator or parasitic species) shall be implemented where available and feasible;

Timing and level setting of water control structures required for the establishment of desired hydrologic conditions or for management of vegetation;

Inspection schedule for embankments and structures for damage assessment;
Depth of sediment accumulation to be allowed before removal is required;

Management needed to maintain vegetation, including control of unwanted vegetation;

Compatible uses and timing (e.g. grazing and harvesting).

REFERENCES

Clewell, A.F., and R. Lea, 1989. Creation and restoration of forested wetland vegetation in the southeastern United States, p. 195-230; in, Wetland Restoration and Creation: the status of the science, Island Press, Washington, DC.

Hammer, D.A., 1992. Creating freshwater wetlands. Lewis publishers, Inc., Chelsea, MI. 298 p.

Mitsch, J.W. and J.G. Grosselink, 1993. Wetlands, 2nd edition. Van Nostrand Reinhold, NY. 722 p.